

## EPA MAXIMUM ALLOWABLE PRESSURE

The EPA maximum allowable pressure for the project was calculated as per the US EPA Method 1 (under-pressurized case) described in the US EPA 2013 guideline for the Geologic Sequestration of Carbon Dioxide [EPA 2013]. This guideline defines the pressure-front  $P_{i,f}$  as “the area around an injection well where, during injection, the [hydraulic] head of the formation fluid in the injection zone is equal to or greater than the [hydraulic] head of USDWs.” Defined this way, the pressure-front may be calculated by the following equation:

$$P_{i,f} = P_u + \rho_i g \times (z_u - z_i)$$

where  $P_u$  is the initial fluid pressure in the USDW,  $\rho_i$  is the injection-zone fluid density,  $g$  is the acceleration due to gravity,  $z_u$  is the representative elevation of the USDW, and  $z_i$  is the representative elevation of the injection zone.

Similarly, the increase in pressure that may be sustained in the injection zone ( $\Delta P_{i,f}$ ) is:

$$\Delta P_{i,f} = P_u + \rho_i g \times (z_u - z_i) - P_i$$

Based on the equation and other data above, the pressure front  $P_{i,f}$  is estimated at 14.64 MPa and the threshold pressure change used for the AOR is calculated at 1.54 MPa.